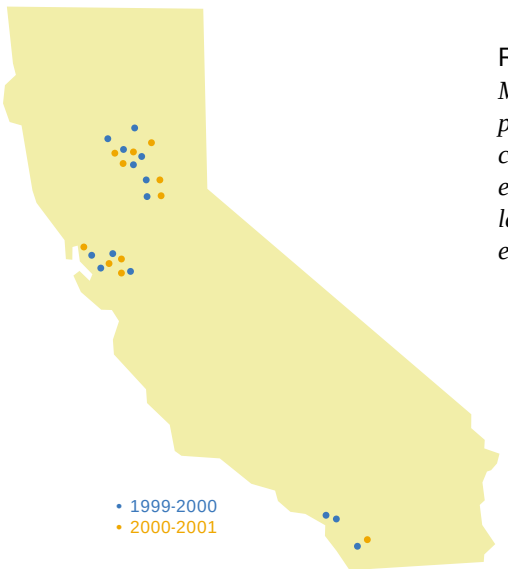
PROTECTING PEOPLE AND THE ENVIRONMENT

ONE GOAL DRIVES ALL DPR POLICIES AND PROGRAMS **– to better protect people and the environment. Our work spans a broad range of regulatory activity and scientific analysis that aims to support safer, smarter pest management strategies. In 2001, DPR and the County Agricultural Commissioners will commence or continue major initiatives to reduce reliance on fumigant pesticides, assess and improve water quality, assist people with special pesticide concerns, and improve workplace safety.**



Surface water monitoring

DPR is conducting surface water-related projects in the Sacramento and San Joaquin rivers, Alameda County and the San Francisco Bay Estuary, and Orange, Los Angeles and San Diego counties.

Reducing the impact of fumigants

Measured in pounds, fumigants represent about one-fourth of all agricultural pesticides used in California. Before planting crops, farmers use fumigants to control disease, weeds and pests in the soil. Since fumigants are both toxic and gaseous, their offsite movement can pose hazards. DPR and the commissioners have launched a coordinated effort to assess hazards of fumigants, reduce environmental impacts, and support research to find less risky alternatives.

Methyl bromide regulations tightened. In late 2000, DPR finalized regulations that established minimum buffer zones around fumigations to better protect neighborhoods, schools, and other sensitive areas. New limits were also set on work hours for fumigation workers. Commissioners are working closely with growers and applicators to help them comply with the new rules.

DPR and the commissioners also began enforcing new rules on structural applications that require more stringent tarping and ventilation procedures, and buffer zones around fumigations.

Both the field and structural regulations are based on short-term exposure to methyl bromide. DPR also began developing regulations to better protect workers who face long-term exposures from nursery, greenhouse, and other uses. Some of these uses will continue after field fumigations are phased out under an international treaty to protect the ozone layer.

New guidelines for other fumigants. As the methyl bromide phaseout continues, agricultural users have turned to other fumigants, including metam-sodium. DPR provided new guidelines for County Agricultural Commissioners

Surface water PROTECTION PROGRAMS RECEIVED $3 MILLION IN DPR GRANTS.

Photo courtesy of the State Water Resources Control Board

who issue local permits for use of metam-sodium and similar fumigants. The guidelines call for stricter field oversight and clarify instructions on the product labels. DPR will issue buffer zone guidelines early in 2001.

Protecting surface water

DPR's surface water program identifies pesticides that may pollute rivers and other waterways. Our objective is to trace pesticides back to their source, determine how they got into water, and create strategies to prevent future contamination.

Our goal IS TO KEEP PESTICIDES OUT OF GROUND AND SURFACE WATER.

Surface water program expanded. In the 1999 and 2000 budgets, the Governor and Legislature provided more than $3 million to expand DPR surface water protection efforts. With that funding, DPR continues working with the State Water Resources Control Board and its regional water boards to meet state and federal water quality standards. They require the state to determine when levels of pollution are harmful to waterways, identify which waterways are affected, and develop cleanup strategies and timetables. (This process is collectively described as developing "total maximum daily loads" or TMDLs.)

Monitoring for TMDLs. DPR's highest surface water priority is helping the regional water boards develop TMDLs. Toward this goal, DPR has contracted with public and private agencies with expertise in surface water sampling. About 18 projects are planned. Monitoring will continue for several years and include thousands of water samples.

Some studies are targeted at urban pollution sources. For example, the City of San Diego and Alameda County are monitoring stormwater runoff for pesticides. Other urban projects in the San Francisco Bay Area, Los Angeles, San Diego and Orange counties will evaluate urban pesticide use and residential practices that send pesticides into drains. On the agricultural front, DPR has funded TMDL projects by the U.S. Geological Survey to study farm pesticide runoff into the Sacramento and San Joaquin rivers.

More actions on surface water. DPR's Dormant Spray Program is a major, five-year monitoring project in the Sacramento and San Joaquin River watersheds. DPR and County Agricultural Commissioners are working with growers to see if voluntary efforts can reduce pesticide runoff from winter spraying in orchards. Otherwise, DPR will take regulatory action. An assessment due in the fall of 2001 will guide DPR action. The Sacramento River Watershed

Photo courtesy of the California Rice Commission

Rice pesticide RESIDUES IN WATERWAYS HAVE DROPPED 90% SINCE THE 1980S.

Project also focuses on winter runoff from orchards. DPR is participating in this large-scale, voluntary effort in cooperation with the commissioners, regional water boards, pesticide users and manufacturers, pest management professionals, environmental groups, and others to reduce pesticide residues in the Sacramento and Feather River watersheds.

The Rice Pesticide Program, a coordinated effort by DPR, commissioners, and the rice industry, continues its successful efforts to meet water quality goals in waterways near rice fields. Since the 1980s, rice pesticide residues in these water bodies have dropped by more than 90 percent. DPR staff and commissioners are now evaluating the impacts of new pesticides to assure compliance with water quality goals.

Protecting greenhouse harvesters

California is the nation's leading nursery crop producer, but very few state or national pesticide exposure studies have been conducted for greenhouse workers. Since 1998, DPR scientists have monitored greenhouse workers who harvest roses and carnations sprayed with pesticides. This project, to be completed by the end of 2001, will help DPR determine if more safeguards are needed for greenhouse harvesters.

Preventing ground water contamination

In 1986, DPR began implementing the Pesticide Contamination Prevention Act (Assembly Bill 2021) by identifying pesticides that contaminate ground water, monitoring wells for contamination, and creating a database of results. DPR has monitored for 33 pesticides and found 12 of them in ground water due to agricultural applications.

A new, preventive strategy. Based on more than ten years of monitoring and detailed data analysis, DPR has developed a new, preventive strategy against ground water contamination. DPR scientists have created a sophisticated computer model – CALVUL for "California vulnerable." CALVUL uses monitoring data to show where soil, climate, and pesticides interact to threaten ground water – and where regulatory action can prevent contamination before it occurs.

In 2001, DPR will propose regulations that over three years will replace the current patchwork of pesticide management zones with broad, ground water protection areas. While growers will be allowed to use pesticides in vulnerable areas, they must take specific actions to prevent contamination. Commissioners will work with growers and applicators to carry out the new rules.

Monitoring special situations

The Department has launched several special projects to address pesticide concerns that arise in unique situations. Project reports are posted online at www.cdpr.ca.gov/docs/empm/pubs.

Protecting tribal resources. Several Indian tribes in Northern California rely on natural resources – including water, plants, wildlife, and fish – for food as well as traditional crafts such as basket weaving. To address tribal concerns about herbicides used in national forests and on private timberland, DPR and the commissioners are working with the U.S. Forest Service, the California Indian Basketweavers Association, and tribes that use resources in and near Lassen, Eldorado, Stanislaus, and Sierra National Forests. DPR scientists have studied herbicide applications and monitored residues. So far, results from a three-year study show less than 5 percent of herbicides move away from treated areas, although residues may persist for more than 20 months in plants used for basket-making. At the same time, damage from herbicides makes it unlikely such plants will be gathered by basketweavers.

Investigating Lompoc air. DPR, the Santa Barbara County Agricultural Commissioner and other agencies are investigating concerns about pesticides and community health in the area of Lompoc. Based on the recommendations of an interagency work group that includes Lompoc residents, DPR is monitoring pesticide air concentrations in and around the town.

To date, DPR has monitored for 29 chemicals and detected 26 chemicals at levels below any immediate health concerns. DPR is now analyzing this data to determine potential health impacts, and the relationship between pesticide concentrations and weather. Additional monitoring is planned in 2001.

Monitoring sharpshooter campaign. The glassy-winged sharpshooter, has recently emerged as a major threat to the state's grape industry because it transmits a disease that attacks vines. The California Department of Food and Agriculture has funded pesticide applications in Tulare, Fresno, Sacramento, Contra Costa and Butte counties, supervised by County Agricultural Commissioners, to slow the spread of the sharpshooter. DPR's role is to assure compliance with pesticide laws. DPR monitored air, surface water, foliage, backyard fruits, tank mixtures and sensitive sites for insecticide residues. All residues have been well within safe levels.

In response

TO TRIBAL CONCERNS,

DPR MONITORS

PLANTS AND WATER

FOR PESTICIDE RESIDUES.

Enhancing farm WORKER SAFETY IS A CORNERSTONE OF DPR POLICY.

Fighting the red imported fire ant. The red imported fire ant has recently invaded Southern California. The aggressive ant, which lives in large colonies, inflicts a painful sting and poses a potential hazard to humans and animals. The California Department of Food and Agriculture, County Agricultural Commissioners, and vector control districts are treating infested areas. Plant nurseries in quarantined areas are required to treat plants with insecticides before shipment. DPR is monitoring drains, creeks and rivers in Orange County to determine whether insecticide treatments affect aquatic life. To date, results from 18 monthly monitoring reports show almost no insecticide runoff, except when nurseries release water immediately after pesticide use. DPR and others are taking steps to prevent contaminated runoff.

Safeguarding workers

DPR continuously evaluates the use of pesticides to assure they do not pose unacceptable risks to people. Our primary focus is on workers whose jobs involve pesticide use, and field workers who are most likely to face exposure to pesticide residues. DPR's Worker Health and Safety Branch monitors residues in the field and the use of pesticide application equipment. The branch also evaluates illness investigations to confirm that workers and the general public are protected.

Improving farm worker safety. By law, warning signs are required around farm fields after certain pesticide applications, and workers must be informed about other hazards. DPR evaluations show inconsistent compliance by growers with these right-to-know rules. DPR will address ways to improve compliance in mid-2001 after discussions with commissioners, farm worker advocates, and grower groups.

DPR also investigated allegations that farm workers have been threatened with the loss of their jobs for reporting unsafe working conditions. DPR and the State Department of Industrial Relations are evaluating the complaint process and working to better coordinate safety investigations.

Speaking workers' language. DPR and the commissioners make special efforts to provide safety information to workers with limited English skills. In 2000, DPR provided funding to print thousands of copies of a popular Spanish novella (comic book) on pesticide safety, which the commissioners distributed widely. DPR also revised its worker-safety leaflets (in both English and Spanish) to make them easier to understand. In addition, many commissioners employ bilingual staff.

Emergency treatment manual

Following complaints about emergency treatment of victims in major pesticide incidents, DPR helped the Office of Emergency Services develop a training manual during 2000. DPR scientists provided technical assistance on different types of pesticide-related episodes and the potential hazards for each episode. The new manual will guide emergency personnel in pesticide-related incidents and provide contact persons for pesticide emergencies.

Measuring spray equipment risks. New pesticide application technology allows less pesticide use while making precise, high-concentration spray treatments. To address concerns that this may pose a risk to workers, DPR scientists conducted studies with the new spray equipment. Preliminary findings indicate the new technology does not increase exposure. This could advance the use of more environmentally-friendly equipment. At the same time, DPR scientists are taking a new look at old technology – small, hand-held sprayers – and safety concerns that could prompt regulatory action.

Field residues analyzed. After pesticides are applied, workers must stay out of the field from several hours to several weeks (depending on the pesticide). DPR scientists have collected and analyzed crop foliage to determine whether such "reentry intervals" sufficiently protect workers, although California already has the most stringent restrictions in the nation. An analysis of two years of data suggests that some reentry intervals may need to be even more restrictive. DPR will identify those work situations in 2001.

We operate

THE MOST EXTENSIVE

PESTICIDE ILLNESS

MONITORING PROGRAM

IN THE UNITED STATES.

Reducing pesticide illnesses

DPR manages the most extensive pesticide illness monitoring program in the United States. State law requires physicians to directly report any suspected or confirmed pesticide illness, and DPR actively pursues other cases based on worker compensation claims. County agricultural commissioners then investigate every report and relay their findings to DPR. While the system cannot track unreported illnesses, DPR receives extensive data on occupational incidents and uses the data to refine health and safety measures. The data is compiled into an annual summary report available on DPR's Web site.

As part of its continuous improvement process, DPR's Worker Health and Safety Branch has begun a special project to evaluate new sources of data that may reveal unreported pesticide illnesses, including those involving children and some agricultural workers. DPR is conducting a one-time review of hospital discharge records, death certificates and poison control records.